January 18, 1999

Ms. Margaret Sheppard
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Washington, DC 20460

Re: Development of Guidance on Updating an Output Allowance System

Dear Margaret,

Thank you for the opportunity to provide information regarding the development of the output-based emission allocation system guidance. As you know, Trigen strongly supports the use of output-based allowance systems in the NOx trading program and we have already provided you with information regarding thermal energy measurement techniques and costs (USEPA Combined Heat and Power Plant Tour and Briefing, 12/16/98, Philadelphia, Pa). The following are some thoughts regarding other questions which have been raised through the Clean Air and Climate Change Subcommittee and the Updating Output Emission Limitations Workgroup.

What are the Sources of Information that States Need for Allocations?

Electric Generation

- *Net vs. Gross Generation Measurement?*

Electricity should be measured on a net plant (not per emission unit) basis at the interface between the plant and the transmission/distribution system. The same can be done for thermal energy. Note that in this case the "plant" is the energy production facility and not the entire industrial facility.

- *How can EPA allocate based on generation measured at the plant level or the generator or turbine level, when EPA allowance tracking system tracks at the unit (boiler or turbine) level and EPA's emission tracking system tracks emissions and heat input at the unit and stack levels?*

Allocation is not linked to compliance tracking or enforcement. The compliance tracking system measures the emissions at each unit and the operators need to have enough allowances from some source to cover their emissions either at the unit or plant level. However, there is no actual or required linkage between the two. As long as the operator can show adequate allowances to cover the measured emissions, it doesn't matter where they came from. In the OTR, allowances were allocated differently in each state, in some

cases not clearly based on unit or plant characteristics, and there is no problem expected with tracking or compliance. There is no issue here.

Mechanical output

- *Is mechanical output going to be a form of output by either industrial or electrical generating units?*

By definition, EGU's should be predominantly generating electricity rather than mechanical drive. In the context of the SIP call trading program, we would only be interested in non-electric mechanical drives with heat input greater than 250 MMBtu/hr. The only mechanical drive sources currently known to be in the non-EGU inventory and the only ones likely to be included in the trading program are pipeline compressor drives. There are fewer than five such sources in the inventory and some of those may not really be larger than 250 MMBtu/hr. Smaller mechanical drive sources are unlikely to opt in to the program due to the high costs of monitoring. If there are five or less such sources in the system, I don't think it is worth developing measurement protocols and systems. It would be more appropriate to calculate output for these units based on measured heat input data and design or measured efficiency data.

- *If mechanical output is used, how is mechanical output measured? What are the units of measurement?*

The appropriate unit is probably horsepower-hour. This can be measured but it is probably not needed for the reasons discussed above.

Comparing converting heat input, steam input and electric output

- *Should steam output be converted to electrical output? If so, which method should be used to convert steam energy to electrical power equivalent? If steam energy were not converted, how would emissions limitations be treated for cogenerators?*

It is not necessary to convert thermal output to electric output. Cogenerators should receive the same allocation as separate conventional facilities providing the same electricity and thermal service. Under an output-based allocation system, each power generation unit receives allowances from the EGU allowance pool proportional to its electric output. If a generator produces 5 percent of the generation in a state, it receives 5 percent of the EGU allowances. Each non-electric generator receives allowances from the non-EGU pool proportional to its thermal output. A cogeneration facility would receive allowances from each pool proportional to its generation of each. No conversion is needed or appropriate.

It has been suggested that a conversion is required to adjust the EGU and non-EGU pools for the "transfers" that would take place when a cogeneration facility draws some allowances from the non-EGU pool even though its baseline was counted completely in

the EGU pool. We believe that this is an unnecessary refinement. The development of the pools and the allocation to sources inherently involves reallocation of allowances from historical sources and levels. This is just another form of that reallocation. Moreover, the pool levels are not exact numbers. The process involves a large number of assumptions and estimates that might have resulted in different pool values if they had been done differently. In addition, there are sources that are not included in the inventory that must receive allocations and this will change the allowances available to the remaining units. There is more variation in the numbers due to these assumptions and omissions than will be caused by the proposed treatment of cogeneration facilities. The "correction" is not useful or necessary and neither is the conversion.

- *What assumptions should be made about the efficiency of conversion from steam output to electrical output?*

See above.

- *If output date were not available directly, what would be appropriate assumptions to make about the efficiency of conversion from heat input to output?*

Data on heat rates of power generators are available from EIA sources (Form 767 and 860). Data on boiler and engine efficiencies may be available from manufacturers and will be developed as the monitoring of output begins under the EPA data collection program.

Thanks for the opportunity to provide these comments. If you have any questions, please feel free to call me at (914) 286-6621.

Sincerely,

Mark C. Hall
Director of Government Affairs
Trigen Energy Corporation